

Claims

1. A circuit board support rack comprising:

-a frame;

-a board engagement platform fixed with respect to the frame;

5 -a board retention member spaced from the engagement platform by a dimension;

-a first adjustment mechanism coacting with the frame and the retention member and permitting selection of the dimension; and

10 -a second adjustment mechanism on the retention member, such second adjustment mechanism being mounted for movement toward and away from the engagement platform while holding the dimension substantially constant.

2. The rack of claim 1 wherein:

-the frame includes plural openings for attaching the rack to a vibratory table;

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-the first adjustment mechanism includes apertures spaced from one another, thereby permitting the dimension to be selected in predetermined increments.

3. The rack of claim 2 wherein:

20 -the dimension is a linear dimension measured along a first axis; and

-the apertures extend along a second axis substantially parallel to the first axis.

4. The rack of claim 3 wherein:

25 -the board engagement platform includes a linear engagement groove extending along a third axis; and

-the third axis is substantially perpendicular to the first axis.

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5. In combination, a printed circuit board having first and second edges and a rack supporting the board, the rack comprising:

- a frame;
- a platform mounted with respect to the frame and engaging the first edge;
- 5 -a board retention member spaced from the engagement platform by a dimension;
- a first adjustment mechanism coacting with the frame and the retention member and maintaining the dimension; and
- 10 -a second adjustment mechanism on the retention member and engaging the second edge;

and wherein:

- the platform and the second adjustment mechanism exert compressive force on the board.

15 6. The combination of claim 5 wherein the second adjustment mechanism includes:

- a clamping screw threaded to the retention member; and
- a locating pin mounted to the clamping screw for relative movement with respect to such screw, the pin including a notch engaging the second edge of
- 20 the printed circuit board.

7. The combination of claim 5 wherein:

- the retention member includes a plurality of second adjustment mechanisms,
- each second adjustment mechanism has a respective clamping screw;
- 25 -each clamping screw is threaded to the retention member; and
- each clamping screw has a respective locating pin mounted thereto.

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8. The combination of claim 7 wherein:

- the clamping screws are first, second and third clamping screws;
- the locating pins are first, second and third locating pins mounted on the first, second and third clamping screws, respectively; and
- each locating pin is rotationally movable with respect to the clamping screw on which it is mounted.

9. The combination of claim 5 wherein:

- the board has a substantially planar surface; and
- the compressive force is exerted substantially parallel to the planar surface.

10. The combination of claim 5 wherein:

- the board has a substantially planar surface; and
- the compressive force is exerted substantially coincident with the planar surface.

11. In combination, a plurality of printed circuit boards, a rack supporting the boards and a vibratory table supporting the rack and the boards, and wherein:

- the rack includes a platform and a board retention member exerting compressive force on the boards;
- the table includes a mounting surface having a plurality of holes formed therein;
- the rack includes a frame having plural openings formed therein; and
- fasteners extend through the openings into the holes, thereby securing the rack and the boards to the table.

12. The combination of claim 11 wherein:

- the frame includes a pair of vertical, longitudinally-spaced end panels having a pair of laterally-spaced rails therebetween;
- the platform and the board retention member are supported between the end panels in spaced relationship to one another and the printed circuit boards are clamped therebetween; and
- the openings are in the rails.

13. The combination of claim 12 wherein:

- the board retention member has first and second pluralities of clamping screws threaded thereto; and
- each clamping screw of the first plurality of clamping screws has a relatively-movable locating pin coupled thereto.

14. The combination of claim 12 wherein:

- the board retention member has first and second pluralities of clamping screws threaded thereto;
- each clamping screw of the first plurality and of the second plurality of clamping screws has a locating pin coupled thereto;
- the boards comprise first and second boards;
- the first board is clamped between the platform and the first plurality of clamping screws; and
- the second board is clamped between the platform and the second plurality of clamping screws.

15. The combination of claim 12 wherein:

- the end panels are first and second end panels having, respectively, first and second rows of vertically-spaced-apart apertures;
- first and second screws extend, respectively, through an aperture of the first and second rows and engage the board retention member.

16. The combination of claim 15 wherein:

-the platform and the board retention member are spaced apart by a first dimension;

-the platform and the locating pins of the first plurality of clamping screws are spaced apart by a second dimension;

-the first and second rows of apertures and the first and second screws comprise a first adjustment mechanism whereby the first dimension may be selected in predetermined increments; and

-the first plurality of clamping screws comprises a second adjustment mechanism whereby the second dimension may be selected in a continuum.